

Datasheet

EEP-150N EDGE AI BOX

Compact, Scalable, and AI-Ready for the Edge

The Emplus EEP-150N is a compact, industrial-grade Edge AI PC engineered to deliver high-performance AI inferencing at the edge. Powered by the NVIDIA Jetson Orin NX platform, it offers up to 157 TOPS of AI capability—purpose-built for real-time vision analytics across industrial automation, smart cities, surveillance, and more.

Designed for scalability and integration flexibility, the EEP-150N features a comprehensive set of I/O interfaces, including Gigabit Ethernet, USB 2.0/3.2, HDMI, audio, RS232/422/485 combo, CAN bus, and digital I/O. It supports both the NVIDIA Jetson NX and Nano series, with modular SSD storage options that adapt to diverse system requirements.

The EEP-150N runs Nvidia Linux L4T and is backed by Emplus' optimized software stack and services. This includes up-to-date BSP maintenance aligned with the latest NVIDIA SDKs, enhanced security features, integrated database support, and built-in communication interfaces such as MQTT and RESTful APIs. This comprehensive platform enables developers to accelerate deployment while focusing on domain-specific AI applications.



Features

- > Nvidia Jetson Orin NX/Nano SOM compatible with super mode supported for enhanced AI performance
- > 2xGbE, 2xUSB3.2, 2xUSB2.0, 1xHDMI, 1xAudio
- > Multiple I/O ports for industrial applications
- > Recovery key for firmware update
- > VESA & DIN rail mount
- > 2x M.2 2280 NVME support
- > WiFi6 /Bluetooth 5.2 module integration
- > 12-24V DC in, with lockable jack
- > Compact dimension
- > Nvidia Linux L4T with Jetpack and Deep-stream SDK integration
- > RESTful API and MQTT communication interfaces
- > Optimized For Vision AI
- > Vector Database Integrated
- > Secure & Privacy : Local data processing enhances privacy
- > Reset key for system reset

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Product Specifications

Item	Specification		
Model	EET-150N-X16	EET-150N-X08	EET-150N-N08
CPU Module	NVIDIA® Jetson™ Orin NX 16GB SOM	NVIDIA® Jetson™ Orin NX 8GB SOM	NVIDIA® Jetson™ Orin Nano 8GB SOM
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit Max. 2GHz	6-core Arm® Cortex®-A78AE v8.2 64-bit Max. 2GHz	6-core Arm® Cortex®-A78AE v8.2 64-bit Max. 1.5GHz
GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores Max. 918MHz	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores, Max. 765MHz	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores Max. 625MHz
RAM	16GB 256-bit LPDDR5	8GB 256-bit LPDDR5	8GB 256-bit LPDDR5
AI Performance	Up to 157TOPS	Up to 117TOPS	Up to 67TOPS
DL Accelerator	2x NVDLA v2	1x NVDLA v2	NA
Power	10W - 25W, 40W super mode	10W - 20W, 40W super mode	7W-15W, 25W super mode
Storage	M.2 2280 Gen3/4 reserved for NVME SSD, default 256GB		
Power Button	Press once: On/off Long press for 10 seconds: Force to power off:		
Reset Button	Press once: system reset (hole)		
Recovery Button	Long press then push power button(or reset): system will enter recovery mode Long press during operating: system will reset to factory default		
RTC	1 x CR2032 battery		
DIDO	4 x DI(Digital In), 4x DO(Digital Output), 3.3V		
Expansion on PCBA	1 x M.2 M key 2280 for NVME SSD for system image 1 x M.2 M key 2280 for secondary NVME SSD for data storage or LTE module (optional) 1 x M.2 E key 2230 socket for WiFi		
WiFi/BT	802.11a/b/g/n/ac/ax Wireless LAN 2T2R and BT 5.2		
I/O Interface	1x HDMI 1.4 output (Lockable) 2x USB 3.2 Type A & 2x USB 2.0 Type A 2x RJ45, Gigabit ethernet(10/100M/1000M) 2x DB9 for RS422/ RS485/ RS232 combo port 1x DB9 for CAN port 1 x DB25 GPIO (DIx4/ DOx4/ I2Cx1/ SPIx1 / UARTx1(TX/RX)) 1 x DC jack, lockable 1 x power button 1 x reset button (hole) 1 x recovery button (hole) 2 x LED (system/wireless connectivity) 1 x 3.5mm Audio Jack 2x RP-SMA for Wi-Fi		

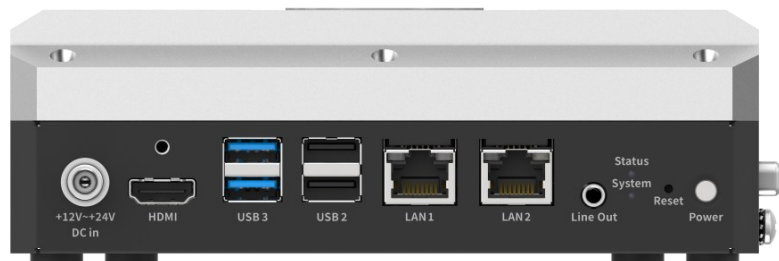
Product Specifications

Item	Specification
Power in	12-24V DC in
Accessory	19V/3.4A, 65W power adapter with power cord; or; 19V/4.5A 90W power adapter with power cord for full I/O load operation (optional)
Fan	Fan-less
Mounting	VESA mounting, DIN-Rail and wall mounting
Dimension	170 x 125 x 60 mm
Weight	1.9kg (device only)
Operating Temperature	-20°C to 70°C with 0.7m/s airflow, at 10W -20°C to 60°C with 0.7m/s airflow, at 25W -20°C to 50°C with 0.7m/s airflow, at 40W (Industrial grade SSD is required to support high temperature operation)
Storage Temperature	-40°C ~ +85°C
Storage Humidity	5%~95% @ 40° C (non-condensing)

I/O Ports

Front Panel

- +12~24V DC in, with lockable jack
- 1 x HDMI (lockable)
- 2 x USB3.2 and 2 x USB2.0 type A
- 2 x GbE Ethernet ports
- 1x audio line out
- 2 x LEDs(system and WiFi)
- 1 x reset, 1 x power button



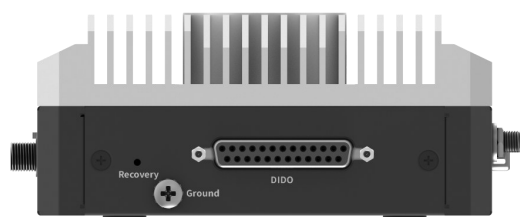
Back Panel

- 2 x DB9 type RS232/422/485 combo port
- 1 x DB9 type CAN port
- 2 x RP-SMA connectors for WiFi

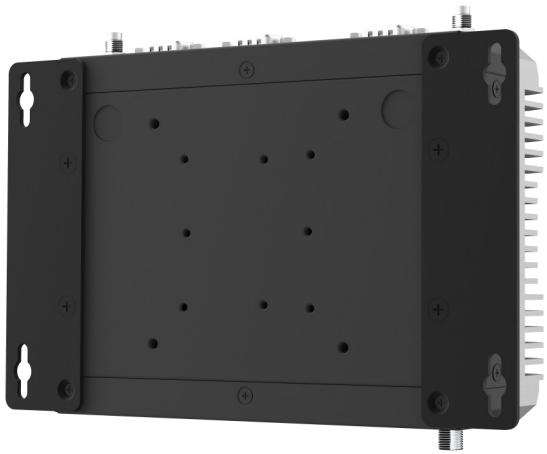


Side Panel

- 1 x recovery button
- 1 x ground skew
- 1 x DB25 type 25-pin self-definition GPIO & DIDO(Digital In/Digital Out)



Mounting Scenarios



Wall Mount



VESA mount

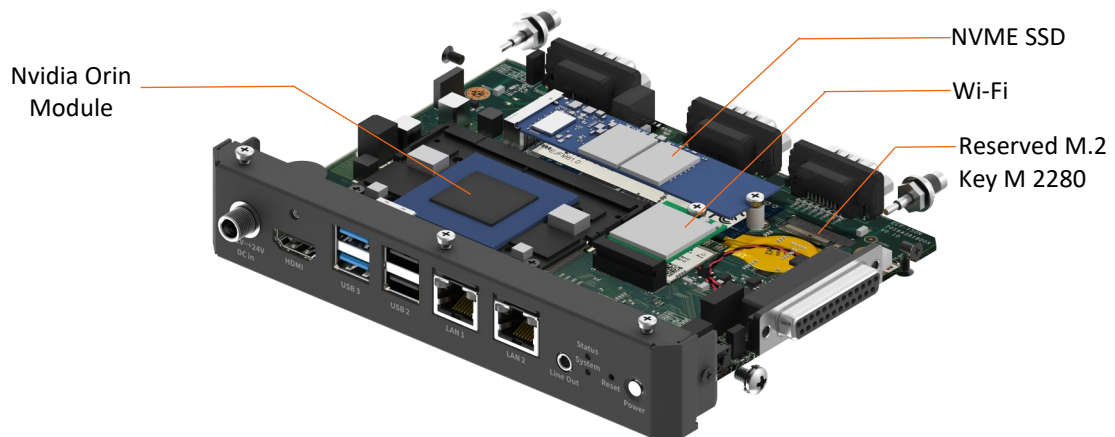


DIN Rail Mount—Horizontal



DIN Rail Mount—Vertical

Internal View

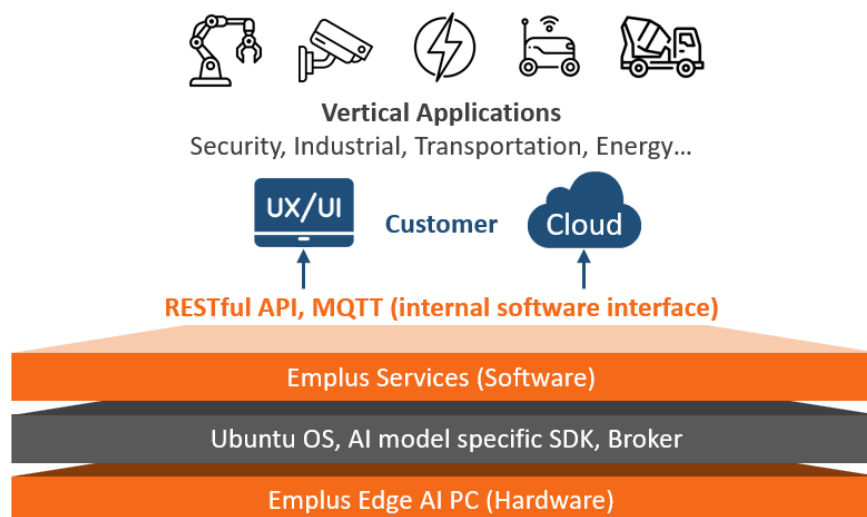


Emplus Software Services— The Middleware Integration

The Emplus provides a middleware framework built on NVIDIA JetPack/DeepStream SDK, and the underlying BSP, consolidating frequent SDK updates, driver dependencies, and diverse AI model runtimes into a stable, optimized runtime. This allows teams to focus on solution development instead of routine maintenance.

On top of this middleware base, the EEP-150N extends NVIDIA SDKs with an optimized video pipeline for multi-stream decoding, low-latency inference, metadata handling, and real-time system control. It also integrates a vector database for AI analytic storage, intelligent search with embeddings, and unified MQTT/REST APIs for streamlined application development. Delivered as an integrated and validated subsystem, these components provide a reliable platform designed for performance and scalability.

This foundation accelerates AI vision applications such as autonomous robots, surveillance, and industrial automation with a cohesive, orchestrated subsystem optimized for building domain-specific solutions.



Key Features

- **AI Model Management** Trained models (YOLO, ResNet, MobileNet) deployed to edge devices, with update/retrain pipelines from the cloud.
- **AI Search** Embedding and vector search engine enabling semantic retrieval across structured or unstructured data, powered CLIP/BLIP or others.
- **Vector Database Support** Integrated support for FAISS, Milvus, and Pinecone for storing and retrieving high-dimensional embeddings from image or text inputs.
- **Unified APIs (REST & MQTT Broker)** Standardized developer interfaces for configuration, control, and data exchange

Emplus delivers an out-of-the-box edge AI middleware that streamlines development and accelerates time-to-market. By unifying model management, intelligent search, and vector database capabilities into a stable runtime, it provides a reliable platform for quickly building and scaling domain-specific AI solutions.

Accessory



HDMI Cable Lockable



Power Adapter



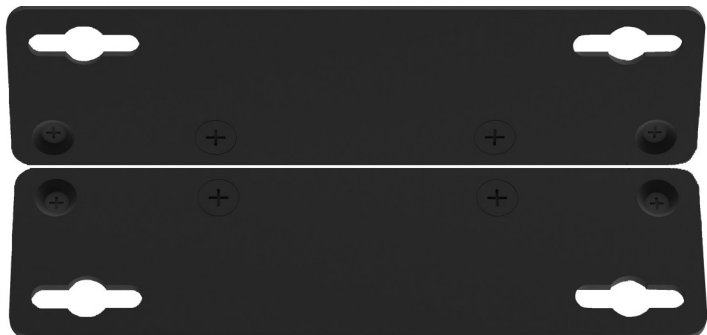
VESA Mount Kit



2.4/5GHz Dual Band 2dBi Wi-Fi Antennas



DIN Rail Mount Kit



Wall Mount Kit

Ordering Information

Part No.	Description
7003A0051000	AC CORD 600mm V44VS331612060N2
7003A0076000	AC CORD 1830mm V44VS331612183N2
7101A0675000	ADAPTER 65W DC19V/3.42A AC100~240V 5.5D/HOUSING
7101A0676000	ADAPTER 90W DC19V/4.74A AC100~240V 5.5D/HOUSING
7102A1412000	2.4/5GHz dual band 2dBi antennas (2pcs)
7114A0574000	MODULE WLAN/BT AW-XB547NF
7102A0897000	VESA mount kit
7103A3323000	DIN rail kit
7121A0224000	Wall mount kit (2 pcs)